

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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|---|---|--|----------------------|
| Applicant's or agent's file reference 28844 | FOR FURTHER ACTION | | See Form PCT/PEA/416 |
| International application No. PCT/IL2005/000210 | International filing date (day/month/year) 20.02.2005 | Priority date (day/month/year) 24.02.2004 | |
| International Patent Classification (IPC) or national classification and IPC INV. A61B18/04 | | | |
| Applicant APPLISONIX LTD. et al | | | |
| <ol style="list-style-type: none"> 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 8 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> <i>sent to the applicant and to the International Bureau</i> a total of 36 sheets, as follows: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> <i>(sent to the International Bureau only)</i> a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). | | | |
| <ol style="list-style-type: none"> 4. This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input checked="" type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application | | | |
| Date of submission of the demand 22.09.2005 | | Date of completion of this report 03.07.2006 | |
| Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div> | | Authorized officer Gaillard, A Telephone No. +49 89 2399-7474 | |



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IL2005/000210

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-34 received on 29.12.2005 with letter of 27.12.2005

Claims, Numbers

1-300 received on 23.05.2006 with letter of 21.05.2006

Drawings, Sheets

1/9-9/9 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
☒ claims Nos. 1-24,76-99,152-175,228-247

because:

- ☒ the said international application, or the said claims Nos. 1-24,76-99,152-175,228-247 relate to the following subject matter which does not require an international preliminary examination (*specify*):

see separate sheet

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*).
- ☒ no international search report has been established for the said claims Nos. 1-24,77-248
- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
- ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b) and 13ter.2.
- ☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☐ See separate sheet for further details

**INTERNATIONAL PRELIMINARY REPORT
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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation to restrict or pay additional fees, the applicant has, within the applicable time limit:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest and, where applicable, the protest fee.
 - ☐ paid additional fees under protest but the applicable protest fee was not paid.
 - ☒ neither restricted the claims nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
- ☒ complied with.
 - ☐ not complied with for the following reasons:
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☐ the parts relating to claims Nos. .

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-------------------------------|
| Novelty (N) | Yes: Claims | 25-75,248-300 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | 25-75,248-300 |
| | No: Claims | |
| Industrial applicability (IA) | Yes: Claims | 25-75,100-151,176-227,248-300 |
| | No: Claims | 1-24,76-99,152-175,228-247 |

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY REPORT
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International application No.
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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

No Search Report has been established in respect of claims 1-24,77-100,153-176,229-248 under Article 17(2)(a) PCT, because these Claims relate to a excluded subject matter under Rule 39.1(iv) PCT.

Further,claims 1-24,76-99,152-175,228-247 do not meet the requirement of the Rule 67 (iv) PCT, because the subject-matter of claims 1-24,76-99,152-175,228-247 appears to relate to a method for treatment of a human or animal body by surgery and by therapy, which is an excluded matter (e.g. damage or destroy follicle). Therefore no examination is performed in view of Article 34.4(a)(i) PCT.

Said claims should be deleted from the application.

Re Item IV

Lack of unity of invention

The separate groups of inventions are:

claims 25-75, 248-300

treating hair through heating.

claims 100-151

treating hair through gripping.

claims 176-227

treating hair through vibrations minimizing of the hair.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Claim group 25-75, 248-300, claim group 100-151 and claim group 176-227 do not appear

to define any common concept binding the respective three subject matters of said three claim groups, which common concept could acknowledge an inventive ingenuity over first cited the prior art.

Therefore the present application lacks unity.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.1 Reference is made to the following documents:

D1: US-A-5 143 063 (FELLNER ET AL) 1 September 1992 (1992-09-01)

D2: US 2002/055693 A1 (THOMPSON TODD A ET AL) 9 May 2002 (2002-05-09)

V.2 The document D1 is regarded as being the closest prior art to the subject-matter of independent device claims 25 and 248, and discloses a device using ultrasonic waves for generating heat in order to destroy cells which is suitable to remove hair.

V.3

- The feature of claim 25 "*wave condenser for gripping the hair*" appears prima facie not to form part of the cited prior art and the subject matter of **claim 25** might therefore **acknowledge an inventive ingenuity over said cited prior art**.
- The subject matter of claim 248, defining an acoustic transducer by a frequency range of 150 to 1300 kHz, appears prima facie not to form part of the cited prior art and to involve an inventive step over the cited prior art through the presence of the essential feature "*transmitting through the hair*".

V.4 Dependent claims 26-75 are dependent on claim 25 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

V.5 Dependent claims 249-300 are dependent on claim 284 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

The attention of the applicant is drawn to the fact that the application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.

Reference signs of the drawings should be mentioned in all independent and **dependent** claims to these features.

Independent claims are not in the **two-part form**, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble and with the remaining features being included in the characterising part.

The dependant claims should be drafted having regard to the new independent claim.

23-05-2006

IAP12 Rec'd PCT/PTO 24 AUG 2006

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WHAT IS CLAIMED IS:

1. A method of treating unwanted hair, comprising transmitting acoustic waves through the hair so as to generate heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.
2. The method of claim 1, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.
3. The method of claim 1, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.
4. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.
5. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.
6. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.
7. The method of claim 3, further comprising pulling the hair so as to effect a detachment of the hair.

8. The method of claim 3, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

9. The method of claim 8, wherein said coupling length is longer than about 1 mm.

10. The method of claim 8, wherein said coupling length is shorter than about 6 mm.

11. The method of claim 1, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

12. The method of claim 1, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

13. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

14. The method of claim 13, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

15. The method of claim 13, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

16. The method of claim 1, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

17. The method of claim 16, wherein said frequency is an off-resonance frequency.

18. The method of claim 16, wherein said acoustic waves comprise ultrasound waves.

19. The method of claim 18, wherein said ultrasound waves are at a frequency of at least 150 kHz.

20. The method of claim 18, wherein said ultrasound waves are at a frequency of at least 500 kHz.

21. The method of claim 18, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

22. The method of claim 18, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

23. The method of claim 1, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

24. The method of claim 1, wherein duration of transmission of said acoustic waves is less than about 1 second.

25. A device (20) for treating unwanted hair protruding from a skin (30), the device comprising:

a transducer (22) for generating acoustic waves;

characterized in that the device further comprises a wave condenser (24), for gripping the hair (28) to establish acoustic coupling between said acoustic waves and the hair in a manner such that said acoustic waves are condensed, transmitted through the hair (28) past the skin (30) and generate heat at a follicle (31), a dermal papilla (32), a hair bulge (35) and/or a germinal matrix (33) of the hair;

said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

26. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

27. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

28. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

29. The device of claim 25, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

30. The device of claim 29, wherein said coupling length is longer than 1 mm.

31. The device of claim 29, wherein said coupling length is shorter than about 6 mm.

32. The device of claim 25, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal

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papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

33. The device of claim 25, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

34. The device of claim 33, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

35. The device of claim 34, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

36. The device of claim 34, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

37. The device of claim 25, wherein at least one of: a frequency, a power density and a duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

38. The device of claim 37, wherein said frequency is an off-resonance frequency.

39. The device of claim 37, wherein said transducer is an ultrasound transducer generating ultrasound waves.

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40. The device of claim 25, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

41. The device of claim 40, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

42. The device of claim 40, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

43. The device of claim 40, wherein said transducer comprises a planar active element.

44. The device of claim 40, wherein said transducer comprises a concaved active element.

45. The device of claim 40, wherein said transducer comprises a plurality of active elements arranged on a surface.

46. The device of claim 45, wherein said surface is a plane.

47. The device of claim 45, wherein said surface is a concaved surface.

48. The device of claim 25, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

49. The device of claim 48, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

50. The device of claim 40, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

51. The device of claim 48, wherein said focusing element comprises a tapered housing.

52. The device of claim 51, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

53. The device of claim 45, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

54. The device of claim 39, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

55. The device of claim 54, wherein said chamber contains an ultrasound transmission gel.

56. The device of claim 54, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

57. The device of claim 56, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

58. The device of claim 25, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

59. The device of claim 25, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

60. The device of claim 48, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

61. The device of claim 58, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

62. The device of claim 61, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

63. The device of claim 61, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

64. The device of claim 61, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

65. The device of claim 25, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

66. The device of claim 65, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

67. The device of claim 65, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

68. The device of claim 65, further comprising said ultrasound transmission gel.

69. The device of claim 65, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

70. The device of claim 39, wherein said ultrasound waves are at a frequency of at least 150 kHz.

71. The device of claim 39, wherein said ultrasound waves are at a frequency of at least 500 kHz.

72. The device of claim 39, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

73. The device of claim 39, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

74. The device of claim 25, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

75. The device of claim 25, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

76. A method of treating unwanted hair, comprising gripping a segment of the hair and transmitting acoustic waves through the hair, wherein a length of said segment of the hair is selected so as to enhance an acoustic coupling between the hair and said acoustic waves.

77. The method of claim 76, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or

a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

78. The method of claim 76, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

79. The method of claim 78, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

80. The method of claim 78, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

81. The method of claim 78, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

82. The method of claim 78, further comprising pulling the hair so as to effect a detachment of the hair.

83. The method of claim 78, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

84. The method of claim 83, wherein said coupling length is longer than about 1 mm.

85. The method of claim 83, wherein said coupling length is shorter than about 6 mm.

86. The method of claim 76, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

87. The method of claim 76, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

88. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

89. The method of claim 88, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

90. The method of claim 88, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

91. The method of claim 76, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

92. The method of claim 91, wherein said frequency is an off-resonance frequency.

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93. The method of claim 91, wherein said acoustic waves comprise ultrasound waves.

94. The method of claim 93, wherein said ultrasound waves are at a frequency of at least 150 kHz.

95. The method of claim 93, wherein said ultrasound waves are at a frequency of at least 500 kHz.

96. The method of claim 93, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

97. The method of claim 93, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

98. The method of claim 76, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

99. The method of claim 76, wherein duration of transmission of said acoustic waves is less than about 1 second.

100. A device for treating unwanted hair, the device comprising:
a transducer for generating acoustic waves; and
a wave condenser for condensing and transmitting said acoustic waves through the hair, said wave condenser being designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

101. The device of claim 100, wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

102. The device of claim 100, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

103. The device of claim 100, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

104. The device of claim 100, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

105. The device of claim 100, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

106. The device of claim 105, wherein said coupling length is longer than 1 mm.

107. The device of claim 105, wherein said coupling length is shorter than about 6 mm.

108. The device of claim 100, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

109. The device of claim 100, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations on the hair.

110. The device of claim 109, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

111. The device of claim 110, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

112. The device of claim 110, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

113. The device of claim 100, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

114. The device of claim 113, wherein said frequency is an off-resonance frequency.

115. The device of claim 113, wherein said transducer is an ultrasound transducer generating ultrasound waves.

116. The device of claim 100, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

117. The device of claim 116, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one

118. The device of claim 116, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

119. The device of claim 116, wherein said transducer comprises a planar active element.

120. The device of claim 116, wherein said transducer comprises a concaved active element.

121. The device of claim 116, wherein said transducer comprises a plurality of active elements arranged on a surface.

122. The device of claim 121, wherein said surface is a plane.

123. The device of claim 121, wherein said surface is a concaved surface.

124. The device of claim 100, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

125. The device of claim 124, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

126. The device of claim 116, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

127. The device of claim 124, wherein said focusing element comprises a tapered housing.

128. The device of claim 127, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

129. The device of claim 121, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

130. The device of claim 115, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

131. The device of claim 130, wherein said chamber contains an ultrasound transmission gel.

132. The device of claim 130, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

133. The device of claim 132, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

134. The device of claim 100, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

135. The device of claim 100, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

136. The device of claim 124, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

137. The device of claim 134, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

138. The device of claim 137, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

139. The device of claim 137, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

140. The device of claim 137, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

141. The device of claim 100, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

142. The device of claim 141, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

143. The device of claim 141, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

144. The device of claim 141, further comprising said ultrasound transmission gel.

145. The device of claim 141, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

146. The device of claim 115, wherein said ultrasound waves are at a frequency of at least 150 kHz.

147. The device of claim 115, wherein said ultrasound waves are at a frequency of at least 500 kHz.

148. The device of claim 115, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

149. The device of claim 115, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

150. The device of claim 100, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

151. The device of claim 100, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

152. A method of treating unwanted hair, comprising transmitting acoustic waves through the hair wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

153. The method of claim 152, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

154. The method of claim 152, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

155. The method of claim 152, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

156. The method of claim 152, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.

157. The method of claim 156, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

158. The method of claim 156, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

159. The method of claim 156, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

160. The method of claim 156, further comprising pulling the hair so as to effect a detachment of the hair.

161. The method of claim 156, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

162. The method of claim 161, wherein said coupling length is longer than about 1 mm.

163. The method of claim 161, wherein said coupling length is shorter than about 6 mm.

164. The method of claim 152, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

165. The method of claim 153, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

166. The method of claim 153, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

167. The method of claim 152, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

168. The method of claim 167, wherein said frequency is an off-resonance frequency.

169. The method of claim 167, wherein said acoustic waves comprise ultrasound waves.

170. The method of claim 169, wherein said ultrasound waves are at a frequency of at least 150 kHz.

171. The method of claim 169, wherein said ultrasound waves are at a frequency of at least 500 kHz.

172. The method of claim 169, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

173. The method of claim 169, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

174. The method of claim 152, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

175. The method of claim 152, wherein duration of transmission of said acoustic waves is less than about 1 second.

176. A device for treating unwanted hair, the device comprising:
a transducer for generating acoustic waves; and
a wave condenser for condensing and transmitting said acoustic waves through the hair;

wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

177. The device of claim 176, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

178. The device of claim 176, wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

179. The device of claim 176, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

180. The device of claim 176, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

181. The device of claim 176, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

182. The device of claim 176, wherein said wave condenser is designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

183. The device of claim 182, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

184. The device of claim 183, wherein said coupling length is longer than 1 mm.

185. The device of claim 183, wherein said coupling length is shorter than about 6 mm.

186. The device of claim 176, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

187. The device of claim 177, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

188. The device of claim 177, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

189. The device of claim 176, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

190. The device of claim 189, wherein said frequency is an off-resonance frequency.

191. The device of claim 189, wherein said transducer is an ultrasound transducer generating ultrasound waves.

192. The device of claim 176, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

193. The device of claim 192, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

194. The device of claim 192, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

195. The device of claim 192, wherein said transducer comprises a planar active element.

196. The device of claim 192, wherein said transducer comprises a concaved active element.

197. The device of claim 192, wherein said transducer comprises a plurality of active elements arranged on a surface.

198. The device of claim 197, wherein said surface is a plane.

199. The device of claim 197, wherein said surface is a concaved surface.

200. The device of claim 176, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

201. The device of claim 200, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

202. The device of claim 192, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

203. The device of claim 200, wherein said focusing element comprises a tapered housing.

204. The device of claim 203, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

205. The device of claim 197, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

206. The device of claim 191, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

207. The device of claim 206, wherein said chamber contains an ultrasound transmission gel.

208. The device of claim 206, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

209. The device of claim 208, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

210. The device of claim 176, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

211. The device of claim 176, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

212. The device of claim 200, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

213. The device of claim 210, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

214. The device of claim 213, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

215. The device of claim 213, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

216. The device of claim 213, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

217. The device of claim 176, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

218. The device of claim 217, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

219. The device of claim 217, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

220. The device of claim 217, further comprising said ultrasound transmission gel.

221. The device of claim 217, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

222. The device of claim 191, wherein said ultrasound waves are at a frequency of at least 150 kHz.

223. The device of claim 191, wherein said ultrasound waves are at a frequency of at least 500 kHz.

224. The device of claim 191, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

225. The device of claim 191, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

226. The device of claim 176, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

227. The device of claim 176, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

228. A method of treating unwanted hair, comprising transmitting acoustic waves at a frequency of from about 150 kHz to about 1300 kHz through the hair.

229. The method of claim 228, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

230. The method of claim 228, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

231. The method of claim 228, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.

232. The method of claim 231, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic

waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

233. The method of claim 231, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

234. The method of claim 231, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

235. The method of claim 231, further comprising pulling the hair so as to effect a detachment of the hair.

236. The method of claim 231, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

237. The method of claim 236, wherein said coupling length is longer than about 1 mm.

238. The method of claim 236, wherein said coupling length is shorter than about 6 mm.

239. The method of claim 228, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

240. The method of claim 228, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

241. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

242. The method of claim 241, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

243. The method of claim 241, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

244. The method of claim 228, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

245. The method of claim 244, wherein said frequency is an off-resonance frequency.

246. The method of claim 228, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

247. The method of claim 228, wherein duration of transmission of said acoustic waves is less than about 1 second.

248. A device (20) for treating unwanted hair, the device comprising:

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a transducer (22) for generating acoustic waves;

characterized in that

said acoustic waves being at a frequency of from about 150 kHz to about 1300 kHz; and

the device further comprises a wave condenser (24) for condensing and transmitting said acoustic waves through the hair (28) ;

wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair.

249. The device of claim 248, wherein said heat is in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

250. The device of claim 248, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

251. The device of claim 248, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

252. The device of claim 248, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

253. The device of claim 248, wherein said wave condenser is designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

254. The device of claim 253, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said

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dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

255. The device of claim 254, wherein said coupling length is longer than 1 mm.

256. The device of claim 254, wherein said coupling length is shorter than about 6 mm.

257. The device of claim 248, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

258. The device of claim 248, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

259. The device of claim 258, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

260. The device of claim 259, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

261. The device of claim 259, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

262. The device of claim 248, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said

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heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

263. The device of claim 262, wherein said frequency is an off-resonance frequency.

264. The device of claim 262, wherein said transducer is an ultrasound transducer generating ultrasound waves.

265. The device of claim 248, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

266. The device of claim 265, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

267. The device of claim 265, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

268. The device of claim 265, wherein said transducer comprises a planar active element.

269. The device of claim 265, wherein said transducer comprises a concaved active element.

270. The device of claim 265, wherein said transducer comprises a plurality of active elements arranged on a surface.

271. The device of claim 270, wherein said surface is a plane.

272. The device of claim 270, wherein said surface is a concaved surface.

273. The device of claim 248, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

274. The device of claim 273, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

275. The device of claim 265, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

276. The device of claim 273, wherein said focusing element comprises a tapered housing.

277. The device of claim 276, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

278. The device of claim 270, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

279. The device of claim 264, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

280. The device of claim 279, wherein said chamber contains an ultrasound transmission gel.

281. The device of claim 279, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

282. The device of claim 281, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

283. The device of claim 248, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

284. The device of claim 248, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

285. The device of claim 273, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

286. The device of claim 283, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

287. The device of claim 286, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

288. The device of claim 286, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

289. The device of claim 286, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

290. The device of claim 248, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

291. The device of claim 290, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

292. The device of claim 290, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

293. The device of claim 290, further comprising said ultrasound transmission gel.

294. The device of claim 290, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

295. The device of claim 264, wherein said ultrasound waves are at a frequency of at least 150 kHz.

296. The device of claim 264, wherein said ultrasound waves are at a frequency of at least 500 kHz.

297. The device of claim 264, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

298. The device of claim 264, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

299. The device of claim 248, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

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300. The device of claim 248, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.